REMARKS

In accordance with the foregoing, claims 1, 4, 14, 15, 22, 23 and 26 have been amended and claims 2 and 3 have been cancelled without prejudice or disclaimer, and claims 1 and 4-26 are pending and under consideration. Entry is requested under 37 CFR 1.116 since no new issues are raised. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §103:

Claims 1-3, 9-15, 20-23 and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (U.S. Patent Application Publication No. 2003/0143407), hereinafter "Yamasaki." The Applicants respectfully traverse the rejection and request reconsideration.

Regarding the rejection of independent claim 1, it is noted that claim 1 has been amended to further recite "the first and second light-to-heat converting layers comprise Ge-Sb-Te alloys; Ag-In-Sb-Te alloys; Ag-In-Sb-Te-V alloys; lithium niobate; methylnitro aniline; or any combinations thereof, and wherein the first and second light-to-heat converting layers absorb a first activation light radiated thereon and convert the absorbed activation light into heat," in addition to the claim's recitation of the thermal sensitive material layer being interposed between the first and second light-to-heat converting layers.

By way of review, Yamasaki discloses a pattern formed on an image forming layer by ink (paragraph [0198]). Specifically, Yamasaki discloses a planographic printing plate precursor that includes an image forming layer (paragraph [0128]) and a light to heat converting substance (paragraph [0185]). Accordingly, when the precursor is treated through laser light, the light to heat converting substance converts the light to heat energy that is applied to the image forming layer (paragraph [0185]). As a result, a heated region of the image forming layer changes from hydrophilic to hydrophobic or from hydrophobic to hydrophilic (paragraph [0194]). Subsequently, when the precursor receives water and ink in a printer, a pattern is formed by the ink in the hydrophobic ink-receiving image area (paragraph [0194]).

The Examiner concedes that Yamasaki does not teach light-to-heat converting material above and below a thermal sensitive layer. Rather, the Examiner states that such an arrangement would have been obvious because Yamasaki teaches the light to heat conversion

material may be in any position of the thermal-sensitive composition. However, though Yamasaki does suggest that a plurality of locations may include the light to heat conversion material according to various embodiments to improve sensitivity, Yamasaki **does not teach light to heat conversion layers sandwiching the image forming layer having the light to heat conversion material in a single embodiment to form patterns.** In fact, such two heat conversion layers sandwiching the image forming layer would not have been obvious, because including two heat conversion layers sandwiching the image forming layer in Yamasaki provides no benefit whatsoever. The light to heat conversion material is not even required in the planographic precursor of Yamasaki, and is disclosed as "desirable" and optional (paragraph [0185]).

Specifically, Yamasaki does not relate to creating patterns that require large amounts of heat (for example, to create very fine patterns finer than the diffraction limit of the activation light and having a high aspect ratio), and does not include a photoresist or heat sensitive layer that could evaporate or deform by larger amounts of heat that are not efficiently converted and provided. Meanwhile, the present claim recites two light-to-heat converting layers, which comprise Ge-Sb-Te alloys; Ag-In-Sb-Te alloys; Ag-In-Sb-Te-V alloys; lithium niobate; methylnitro aniline; or any combinations thereof and thus enable the activation light to be more efficiently converted into heat even at a low output power. As a result, according to the present claim, it is possible to form patterns finer than a diffraction limit of the activation light with a high aspect ratio without increasing the output power of the activation light.

However, there is no conceivable reason to include two heat conversion layers sandwiching the image forming layer in Yamasaki, as Yamasaki does not relate to creating very fine patterns that require large amounts of heat. Yamasaki teaches as a light to heat conversion material various pigments and dyes in paragraphs [0265] to [0272] and simple metals or alloys of Si, Al, Ti, V, Cr, Mn, Fe, Co, Ni, and so forth in paragraph [0274]. However, Yamasaki does not teach Ge-Sb-Te alloys; Ag-In-Sb-Te alloys; Ag-In-Sb-Te-V alloys; lithium niobate; methylnitro aniline; or any combinations thereof, which are different from the metals or alloys listed in Yamasaki. To the extent that the Examiner asserts the light to heat conversion material is contained in the image forming layer, it is not possible to form patterns in the image forming layer corresponding to the thermal sensitive material layer of the instant invention (for example, finer than a diffraction limit of the activation light with a high aspect ratio), without increasing the output power of the activation light because the chemical reaction region in the image forming

layer would be wider than the spot diameter of the laser light, as explained in paragraph [0022] of the detailed description. Moreover, to the extent that the Examiner states that multiple light to heat converting layers would have been obvious due to a benefit to the precursor of Yamasaki because an image is formed faster than with only one light to heat converting layer, it is respectfully noted that forming an image faster has nothing to do with forming a pattern finer than a diffraction limit of the activation light with a high aspect ratio without increasing the output power of the activation light. Also, while the Examiner cites paragraph [0264] of Yamasaki, which states, "at least one light to heat converting layer" to convert optical energy to heat energy, it is noted that Yamasaki only teaches in paragraph [0264] that, "it is desirable that **at least one layer comprised in the precursor contains a light to heat converting agent** having the ability to convert optical energy to heat energy."

Therefore, as Yamasaki does not disclose or even suggest two heat conversion layers comprising Ge-Sb-Te alloys; Ag-In-Sb-Te alloys; Ag-In-Sb-Te-V alloys; lithium niobate; methylnitro aniline; or any combinations thereof and sandwiching the image forming layer and there is no benefit or reason to include such two heat conversion layers in the planographic precursor of Yamasaki, the Applicants respectfully submit that Yamasaki fails to disclose, implicitly or explicitly, a thermal sensitive material layer interposed between first and second light-to-heat converting layers, as recited in claim 1.

Moreover, the Examiner states that the recitation, "wherein the first and second light-to-heat converting layers absorb a first activation light radiated thereon and convert the absorbed activation light into heat," is a process limitation and does not add a positive recitation to the claim. However, the limitation is not a process limitation but a property limitation such that it should be regarded as having patentable weight since the first and second light-to-heat converting layer are not fabricated by the act of absorbing a first activation light radiated thereon and converting the absorbed activation light into heat.

Regarding the rejection of clams 2-3, it is noted that these claims have been cancelled without prejudice or disclaimer.

Regarding the rejection of claims 9-13, it is noted that these claims depend from independent claim 1 and are, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of independent claim 14, it is noted that claim 14 recites some substantially similar features as claim 1. Thus, the rejection of this claim is also traversed for

similar reasons as set forth above.

Regarding the rejection of independent claim 15, it is noted that claim 15 is allowable for at least similar reasons as those provided above with reference to claim 1. Furthermore, it is noted that claim 15 recites "removing a non-pattern portion of the thermal sensitive material layer." In contrast, Yamasaki discloses a planographic printing plate precursor that includes an image forming layer (paragraph [0128]) and a light to heat converting substance (paragraph [0185]). Accordingly, when the precursor is treated through laser light, the light to heat converting substance converts the light to heat energy that is applied to the image forming layer (paragraph [0185]). As a result, a heated region of the image forming layer changes from hydrophilic to hydrophobic or from hydrophobic to hydrophilic (paragraph [0194]). Subsequently, when the precursor receives water and ink in a printer, a pattern is formed by the ink in the hydrophobic ink-receiving image area (paragraph [0194]). **However, the non-image area that does not receive ink (i.e., the hydrophilic area) is not removed, and is an integral part of the precursor that is inserted into a printer**. Furthermore, the Examiner states that the dampening water is removed from the precursor and the non-image area is therefore removed. However, this is not true. Yamasaki relates to a planographic printing plate precursor and planographic printing means printing from **a flat surface**, as opposed to a raised surface (as with relief printing) or an incised surface (as with intaglio printing). Lithography and offset lithography are planographic processes that utilize the property that water will not mix with oil. Therefore, the non-image area is not removed in Yamasaki. Therefore, the Applicants respectfully submit that Yamasaki fails to disclose, implicitly or explicitly, a removing of a non-pattern portion of a thermal sensitive material layer, as recited in claim 15.

Regarding the rejection of claim 20, it is noted that this claim depends from claim 1 and is, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claim 21, it is noted that this claim depends from claim 10 and is, therefore, allowable for at least the reasons set forth above.

Regarding the rejection of claims 22-23, it is noted that these claims have been amended to depend from claim 15 and are, therefore, allowable for at least the reasons set forth above. Moreover, the recitation in claim 22, "wherein the thermal sensitive material layer changes properties due to heating or activation light irradiation, allowing a pattern to appear through a development process," and in claim 23 "wherein at least two surfaces of the thermal sensitive

material layer are heated, enabling a high aspect ratio pattern to be formed" should be considered since the claims, as amended, are method claims.

Regarding the rejection of claim 26, it is noted that this claim has been amended to depend from claim 1 and is, therefore, allowable for at least the reasons set forth above.

Claims 1, 4-8, 16, 18-19 and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (U.S. Patent Application Publication No. 2003/0143407) in view of Takeda et al. (U.S. Patent No. 5,858,604). The Applicants respectfully traverse the rejection and request reconsideration.

Regarding the rejection of independent claim 1, it is noted that Yamasaki fails to teach or suggest the novel features of independent claim 1 as noted above. Takeda, on the other hand, is relied upon for at teaching of features other than those discussed above and furthermore fails to teach or suggest the novel features of independent claim 1. Accordingly, Takeda fails to cure the deficiencies of Yamasaki. Accordingly, the Applicants respectfully submit that claim 1 is allowable because neither Yamasaki nor Takeda, whether taken singly or combined, teach or suggest the novel features of independent claim 1.

Regarding the rejection of claims 4-8, it is noted that these claims depend from claim 1 and are, therefore allowable for at least the reasons set forth above.

Regarding the rejection of claims 16, 18-19, and 25, it is noted that these claims depend from claim 15 and are, therefore, allowable for at least the reasons set forth above.

Claims 16, 17 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamasaki et al. (U.S. Patent Application Publication No. 2003/0143407) in view of Takeda et al. (U.S. Patent No. 5,858,604) and further in view of Kouchiyama et al. (Storage Technology Laboratories). The Applicants respectfully traverse the rejection and request reconsideration.

Regarding the rejection of claims 16, 17, and 24, it is noted that these claims depend from claim 15 and as noted above, Yamasaki fails to teach or suggest the novel features of independent claim 15.

Takeda and Kouchiyama, on the other hand, are relied upon for a teaching of features other than those discussed above with respect to Yamasaki, and furthermore fail to teach or suggest the novel features discussed above. Accordingly, Takeda and Kouchiyama fail to cure the deficiencies of Yamasaki.

Accordingly, the Applicants respectfully submit that claims 16, 17 and 24 are allowable, at least because of their dependency from claim 15 and because neither Yamasaki, Takeda nor Kouchiyama, whether taken singly or combined, teach or suggest the novel features of independent claim 15.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN MCEWEN, LLP

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By: _____
Fadi N. Kiblawi
Registration No. 61,973

1400 Eye St., N.W.
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510